

CLAIMS

What is claimed is:

1. (amended) A stimulation arrangement, comprising:
 - a stimulation unit to deliver electrical stimulation pulses for the stimulation of body tissue, and
 - an evaluation unit to receive electrical signals in conjunction with the delivery of a stimulation pulse and to evaluate same for checking stimulation success,wherein the evaluation unit detects such signal features in the received signal that characterize a case of lack of stimulation success, and delivers a corresponding output signal.
2. (amended) The stimulation arrangement of claim 1, wherein the evaluation unit associates the received electrical signal with a stimulation pulse in respect of time and detects a feature of a polarization artifact as a signal feature in the received signal.
3. (amended) The stimulation arrangement of claim 2, wherein the evaluation unit evaluates the signal measured after the expiry of a blanking period after the delivery of a stimulation pulse and for the purposes of detecting a feature of a polarization artifact to determine a first integral (INGR1) of the measured signal over the time in which the signal measured after the blanking period extends above the signal amplitude during the blanking period.
4. (amended) The stimulation arrangement of claim 3, wherein the evaluation unit determines a second integral (INGR2) of the measured signal over a period of time beginning with the moment in time at which the first integral ends, and which ends with the end of a predetermined time window which begins with the end of the blanking period.
5. (amended) The stimulation arrangement of claim 3, wherein

the signal received after the delivery of a stimulation pulse is received in the form of time-discrete sample values, and

wherein the evaluation unit further comprises a counter that determines the number (CNT1) of sample values of the received signal, which fall into the time over which the first integral is formed.

6. (amended) The stimulation arrangement of claim 4, wherein the evaluation unit forms an indicator flag (CROSS) having a value that depends on whether the measured signal during the period for determining the second integral crosses the signal amplitude which obtains during the blanking period.

7. (amended) The stimulation arrangement of claim 6, wherein the evaluation unit applies the following algorithm to an input signal:

If NEG_AMP < zn Then Capture

If CNT1 > w1 Then AREA = INGR1 + INGR2 Else AREA = INGR2

If AREA < al Then Non-Capture

Elseif CNT1 > w1 Then (If MAX_POS < zp Then Non-Capture Else Capture)

Elseif AREA > a2 Then Capture

Elseif CROSS = 1 Then Capture

Else Non-Capture.

8. (amended) The stimulation arrangement of claim 7, wherein the evaluation unit continuously compares a received electrical signal to a limit value (zn) for the negative signal amplitude and delivers a signal that characterizes a stimulation success in the case of the limit value (zn) being negatively exceeded.

9. (new) The stimulation arrangement of claim 1, wherein the evaluation unit applies the following algorithm to an input signal:

If NEG_AMP < zn Then Capture

If CNT1 > w1 Then AREA = INGR1 + INGR2 Else AREA = INGR2

If AREA < al Then Non-Capture

Elseif CNT1 > w1 Then (If MAX_POS < zp Then Non-Capture Else Capture)

Elseif AREA>a2 Then Capture
Elseif CROSS = 1 Then Capture
Else Non-Capture.

10. (new) The stimulation arrangement of claim 2, wherein
the evaluation unit applies the following algorithm to an input signal:

If NEG_AMP<zn Then Capture
If CNT1>w1 Then AREA=INGR1+INGR2 Else AREA=INGR2
If AREA<a1 Then Non-Capture
Elseif CNT1>w1 Then (If MAX_POS<zp Then Non-Capture Else Capture)
Elseif AREA>a2 Then Capture
Elseif CROSS = 1 Then Capture
Else Non-Capture.

11. (new) The stimulation arrangement of claim 3, wherein
the evaluation unit applies the following algorithm to an input signal:

If NEG_AMP<zn Then Capture
If CNT1>w1 Then AREA=INGR1+INGR2 Else AREA=INGR2
If AREA<a1 Then Non-Capture
Elseif CNT1>w1 Then (If MAX_POS<zp Then Non-Capture Else Capture)
Elseif AREA>a2 Then Capture
Elseif CROSS = 1 Then Capture
Else Non-Capture.

12. (new) The stimulation arrangement of claim 4, wherein
the evaluation unit applies the following algorithm to an input signal:

If NEG_AMP<zn Then Capture
If CNT1>w1 Then AREA=INGR1+INGR2 Else AREA=INGR2
If AREA<a1 Then Non-Capture
Elseif CNT1>w1 Then (If MAX_POS<zp Then Non-Capture Else Capture)
Elseif AREA>a2 Then Capture
Elseif CROSS = 1 Then Capture
Else Non-Capture.

13. (new) The stimulation arrangement of claim 5, wherein
the evaluation unit applies the following algorithm to an input signal:

If $\text{NEG_AMP} < z_n$ Then Capture

If $\text{CNT1} > w_1$ Then $\text{AREA} = \text{INGR1} + \text{INGR2}$ Else $\text{AREA} = \text{INGR2}$

If $\text{AREA} < a_1$ Then Non-Capture

Elseif $\text{CNT1} > w_1$ Then (If $\text{MAX_POS} < z_p$ Then Non-Capture Else Capture)

Elseif $\text{AREA} > a_2$ Then Capture

Elseif $\text{CROSS} = 1$ Then Capture

Else Non-Capture.

14. (new) The stimulation arrangement of claim 1, wherein
the evaluation unit continuously compares a received electrical signal to a
limit value (z_n) for the negative signal amplitude and delivers a signal which
characterizes a stimulation success in the case of the limit value (z_n) being
negatively exceeded.

15. (new) The stimulation arrangement of claim 2, wherein
the evaluation unit continuously compares a received electrical signal to a
limit value (z_n) for the negative signal amplitude and delivers a signal which
characterizes a stimulation success in the case of the limit value (z_n) being
negatively exceeded.

16. (new) The stimulation arrangement of claim 3, wherein
the evaluation unit continuously compares a received electrical signal to a
limit value (z_n) for the negative signal amplitude and delivers a signal which
characterizes a stimulation success in the case of the limit value (z_n) being
negatively exceeded.

17. (new) The stimulation arrangement of claim 4, wherein
the evaluation unit continuously compares a received electrical signal to a
limit value (z_n) for the negative signal amplitude and delivers a signal which

characterizes a stimulation success in the case of the limit value (z_n) being negatively exceeded.

18. (new) The stimulation arrangement of claim 5, wherein
the evaluation unit continuously compares a received electrical signal to a limit value (z_n) for the negative signal amplitude and delivers a signal which characterizes a stimulation success in the case of the limit value (z_n) being negatively exceeded.

19. (new) The stimulation arrangement of claim 6, wherein
the evaluation unit continuously compares a received electrical signal to a limit value (z_n) for the negative signal amplitude and delivers a signal which characterizes a stimulation success in the case of the limit value (z_n) being negatively exceeded.

20. (new) The stimulation arrangement of claim 8, wherein
the evaluation unit continuously compares a received electrical signal to a limit value (z_n) for the negative signal amplitude and delivers a signal which characterizes a stimulation success in the case of the limit value (z_n) being negatively exceeded.

21. (new) The stimulation arrangement of claim 9, wherein
the evaluation unit continuously compares a received electrical signal to a limit value (z_n) for the negative signal amplitude and delivers a signal which characterizes a stimulation success in the case of the limit value (z_n) being negatively exceeded.

22. (new) The stimulation arrangement of claim 10, wherein
the evaluation unit continuously compares a received electrical signal to a limit value (z_n) for the negative signal amplitude and delivers a signal which characterizes a stimulation success in the case of the limit value (z_n) being negatively exceeded.

23. (new) The stimulation arrangement of claim 11, wherein
the evaluation unit continuously compares a received electrical signal to a
limit value (z_n) for the negative signal amplitude and delivers a signal which
characterizes a stimulation success in the case of the limit value (z_n) being
negatively exceeded.

24. (new) The stimulation arrangement of claim 12, wherein
the evaluation unit continuously compares a received electrical signal to a
limit value (z_n) for the negative signal amplitude and delivers a signal which
characterizes a stimulation success in the case of the limit value (z_n) being
negatively exceeded.

25. (new) The stimulation arrangement of claim 13, wherein
the evaluation unit continuously compares a received electrical signal to a
limit value (z_n) for the negative signal amplitude and delivers a signal which
characterizes a stimulation success in the case of the limit value (z_n) being
negatively exceeded.